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August 17, 2004

Reference: *Union Electric Company v. Sauget & Company et al; Pharmacia Corporation et al.
v. Clayton Chemical Acquisition Limited Liability Company et al., Case No.
3:020CV-248*

Dear Linda:

Please find enclosed Expert Reports for submission in connection with the above-referenced matters.

Sincerely,


Eugene Meyer, Ph.D.
Consultant

encl.

EXPERT REPORT

***Pharmacia Corporation and Solutia Inc. v. Clayton Chemical Acquisition Limited Liability Company et al.*, (and in particular, the Plaintiffs' actions against Marchem Corporation, f/k/a M-R Plastics Company, Inc. and Clayton Chemical Company),
Civil Action No. 02-428-MJR (Southern District of Illinois)**

Submitted to:

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EXPERT REPORT

***Pharmacia Corporation and Solutia Inc. v. Clayton Chemical Acquisition Limited Liability Company et al. (and in particular, the Plaintiffs' actions against Marchem Corporation, f/k/a M-R Plastics Company, Inc. and Clayton Chemical Company),
Civil Action No. 02-00428-MJR (Southern District of Illinois)
(Sauget Area 2 Superfund Site)***

1.0 Introduction

Pursuant to Rule 26(a)(2)(B) of the *FEDERAL RULES OF CIVIL PROCEDURE*, this report sets forth the expert opinions the author expects to proffer when the above-referenced matter comes to trial. These opinions concern the chemical nature of wastes generated by Marchem Corporation, f/k/a M-R Plastics Company, Inc. (hereinafter, "Marchem Corporation" unless otherwise noted) and Clayton Chemical Company, Inc. during the period from the mid-1960s through 1998 (the "relevant period") that were disposed of at the Sauget Landfill and treated, stored, and/or disposed of by Clayton Chemical Company. In particular, the opinions expressed herein relate to the following:

- The presence of hazardous substances in these wastes, as the term "hazardous substance" is defined in Section 101(14) of CERCLA, 42 U.S.C. §9601(14);¹
- The release of such hazardous substances at the Clayton Chemical Company plant site and at Sites Q and S of the Sauget Area 2 Superfund Site, as the term "release" is defined in Section 101(22) of CERCLA, 42 U.S.C. §9601(22).

Based on information in the Record of Decision² and elsewhere, the Sauget Area 2 Superfund Site is a facility consisting of approximately 312 acres located within the corporate boundaries of Cahokia, East St. Louis and Sauget, IL, in the flood plain bordering the eastern side of the

¹Hazardous substances are listed at 40 C.F.R. §302.4.

²EPA Superfund Record of Decision, Sauget & Company Landfill (Site Q), EPA ID: ILD000605790, OU 02, Sauget IL (September 30, 2002), p. 1 (PL00063).

Mississippi River. The Site consists of five inactive disposal areas, two of which are called Sites Q and S. Site Q occupies approximately 90 acres and is also known as the Sauget and County Landfill.³ Site S is a parcel measuring less than one acre.⁴ It consists of two pits that were formerly used by Clayton Chemical Company for the disposal of waste (see Section 2.0).

Although the Sauget Area 2 Superfund Site has been divided into five areas, they are not entirely separate parcels. For the purpose of this report, it is relevant to note that the groundwater beneath Site S and the Clayton Chemical Company plant site flows in the direction of Site Q such that the groundwater underlying both Site S and the Clayton Chemical Company plant site is hydraulically interconnected to the groundwater beneath Site Q.^{5,6}

To form the expert opinions expressed herein, the author utilized his professional experience as a chemist, relevant portions of the discovery record including the deposition record, and environmental sampling data relating to the Clayton Chemical Company plant site and Sites Q and S of the Sauget Area 2 Superfund Site. Since discovery has not been completed, the opinions are preliminary in nature and based upon the author's present knowledge of the facts. These opinions may be revised or supplemented at a future date as the author is provided with additional information through the normal course of litigation. These opinions may also be supplemented to rebut the opinions expressed by experts retained by the Defendants or other parties.

³*Ibid.*, p. 6 (PL00068).

⁴*Ibid.*, p. 8 (PL00070).

⁵Andy Davis, personal communication (August 6, 2004).

⁶Draft Remedial Investigation/Feasibility Study, Sauget Area 2, Sauget, Illinois, Figures 5-10a, 5-10b, and 5-10c.

2.0 The Nature of Clayton Chemical Company's Business Operations

Clayton Chemical Company formerly conducted two business operations at its plant site at #1 Mobile Avenue, Sauget, IL. It recovered and recycled spent solvents and it stored waste oil for sale as fuel oil.^{7,8} Clayton Chemical Company employee Ronnie Wyatt estimated that 90% of the recycling component of the business involved the treatment of paint thinners, whereas the remaining 10% involved the treatment of degreasers.⁹

In conjunction with its business operations, the company stockpiled three different types of waste materials at the plant site:¹⁰ non-hazardous waste oil, hazardous waste oil, and hazardous waste solvents. Following the reclamation of the hazardous waste solvents, the recovered liquids were stored in on-Site tanks.¹¹

In 1980, 1983, and 1987, Clayton Chemical Company was granted an Operating Permit to “store, process, blend for supplemental fuels or reclaim spent solvents and oils” by the Illinois Environmental Protection Agency. Specifically, the permit allowed Clayton Chemical Company to process the halogenated solvents, non-halogenated solvents, non-halogenated aromatics, ketones, alcohols, and esters compiled in Table A, as well as paint waste/residues, ink waste/residues, and

⁷CERCLA Combined Assessment Inspection Report for Clayton Chemical ILD066918637, Sauget, Illinois, Illinois Environmental Protection Agency (June 18, 2002), pp. 6-7.

⁸Deposition transcript, Ronnie G. Wyatt (May 24, 2004), p. 16, pp. 22-25, and pp. 62-63.

⁹*Ibid.*, pp. 111-112.

¹⁰CERCLA Combined Assessment Inspection Report for Clayton Chemical ILD066918637, Sauget, Illinois, Illinois Environmental Protection Agency (June 18, 2002), p. 7.

¹¹Deposition transcript, Ronnie G. Wyatt (May 24, 2004), p. 41.

adhesive waste/residues.^{12,13} According to Clayton Chemical Company employee Ronald Entrup, acetone, methyl ethyl ketone, toluene, and xylene were the major spent solvents in this compilation that were reclaimed by the company during the period 1971-1983.¹⁴

TABLE A
SPENT SOLVENTS TREATED BY CLAYTON CHEMICAL COMPANY^a

Halogenated Solvents	Non-Halogenated Solvents
Trichloroethylene	Mineral spirits
Tetrachloroethylene	Glycol ether
1,1,1-Trichloroethane	Heavy naphtha
Methylene chloride	Decane
Chlorinated fluorocarbons	Gasoline
Non-halogenated Aromatics	Ketones
Toluene	Acetone
Xylene	MEK (methyl ethyl ketone) ^b
Benzene	Cyclohexanone
Ethylbenzene	MIBK (methyl isobutyl ketone) ^c
Alcohols	Esters
Methanol	Ethyl acetate
Ethanol	Butyl acetate
Butanol	Isopropyl acetate
Propanol	Propyl acetate
Isopropanol	Isobutyl acetate

¹²Permit granted to Clayton Chemical Company by the Illinois Environmental Protection Agency (March 13, 1980; revised October 22, 1987), pp. 3-4 (CCPRP 009020 - 009021).

¹³Correspondence dated May 4, 1983 from the Illinois Environmental Protection Agency to Clayton Chemical Company regarding Supplemental Permit No. 1983-63.

¹⁴Deposition transcript, Ronald Entrup (May 7, 2003), p. 64.

Propoxyethanol

Methyl Cellosolve Acetate

2-Ethylhexanol

Cellosolve acetate

Butyl formate

²Permit granted to Clayton Chemical Company by the Illinois Environmental Protection Agency (March 13, 1980; revised October 22, 1987), pp. 3-4 (CCPRP 009020 - 009021).

²Methyl ethyl ketone is also known as 2-butanone.

²Methyl isobutyl ketone is also known as 4-methyl-2-pentanone.

Information from the deposition record reveals that Clayton Chemical Company reclaimed spent solvents primarily by either of two distillation processes: steam stripping or thin film evaporation.^{15,16,17} These reclamation processes were conducted in batches as opposed to continuous operations.^{18,19} Due to their nature (see Section 2.1), they often produced mixtures or blends of different solvents, which Clayton Chemical Company could isolate by fractionation, a third distillation process, at the request of the customer.²⁰ All three processes generated treatment residues called "still bottoms,"^{21,22} which required disposition. Ronald Entrup testified that the still bottoms generated through use of its thin film evaporator did not contain water, although the still bottoms

¹⁵Deposition transcript, Ronald Entrup (May 7, 2003), pp. 48-49, pp. 58-60, and pp. 74-75.

¹⁶Deposition transcript, Bud Haney (May 25, 2004), pp. 17-18, pp. 31-34, and pp. 45-49.

¹⁷Deposition transcript, Ronnie G. Wyatt (May 24, 2004), pp. 38-41.

¹⁸Deposition transcript, Ronald Entrup (May 7, 2003), pp. 56-57.

¹⁹Deposition transcript, Bud Haney (May 25, 2004), p. 133.

²⁰Deposition transcript, Ronald Entrup (May 7, 2003), pp. 128-137.

²¹Deposition transcript, Ronnie G. Wyatt (May 24, 2004), pp. 42-45 and pp. 62-63.

²²Deposition transcript, Ronald Entrup (May 7, 2003), p. 135

generated by steam stripping could contain “as much as 70% water.”²³

Clayton Chemical Company also generated a waste in connection with the cleaning of its stills and other equipment. This waste consisted of a hard material resembling paint. It was drummed for disposal.²⁴

There are several known locations at which Clayton Chemical Company disposed of its still bottoms:

- During the 1960s and early 1970s, Clayton Chemical Company transferred its still bottoms into a 2,000-gallon tank truck, which employees emptied at the location now known as the Sauget Landfill or Site Q of the Sauget Area 2 Superfund Site.^{25,26} In 1981, Bud Haney notified the U.S. Environmental Protection Agency on behalf of Clayton Chemical Company that the company had disposed of 655,200 gal of hazardous wastes having the EPA identification numbers F001, F002, F003, and F005 at the Sauget Landfill from 1962 to 1975.²⁷
- During the 1973-1975 time frame, Clayton Chemical Company disposed of the still bottoms generated during the treatment of spent solvents into three pits. One was located immediately south of the plant site.²⁸ Information regarding the location and

²³*Ibid.*, pp. 73-75.

²⁴Deposition transcript, Ronnie G. Wyatt (May 24, 2004), p. 87.

²⁵*Ibid.*, pp. 45-48, p. 97, and p. 99.

²⁶Deposition transcript, Bud Haney (May 25, 2004), p. 26, p. 67, and pp. 69-70.

²⁷Notification of Hazardous Waste Site, executed by Bud Haney, Clayton Chemical Company (June 8, 1981) (PL00031 - 00032).

²⁸Michael D. Grant and Steve Noblitt, RCRA Facility Assessment, Clayton Chemical Company, #1 Mobile Avenue, Sauget, Illinois (undated), p. 5-12.

size of the three pits follows:^{29,30}

“Pit #1 and Pit #2 are not located on Clayton’s property. Pit #2 was estimated as being approximately 30' × 80' and four feet in depth. It was located in the area of the drum storage dock. Estimates are the pit contained 150,000 gallons and was used until full. ... Pit #1 was estimated at 30' × 80' and one foot in depth and was used until full (approximately 35,000 gallons. Pit #3 the largest is estimated at 100' × 300' × 4' in depth with a capacity of 860,000 gallons.”

Pits #1 and #2 constitute Site S of the Sauget Area 2 Superfund Site.

- In 1975-1976, Clayton Chemical Company was permitted by the Illinois Environmental Protection Agency to dispose of its still bottoms at the Mal Landfill in Madison, Illinois.³¹ Clayton Chemical Company may have disposed of its still bottoms at the Mal Landfill during this period.
- After the pits were closed in 1979-80, Clayton Chemical Company delivered its still bottoms to a cement kiln, where they were used as a supplemental fuel, or disposed of them at a landfill other than the Sauget Landfill.^{32,33}

Until 1980, steam stripping was the major method of distillation used by Clayton Chemical Company to reclaim its customer’s spent solvents. This information is based upon the RCRA Facility Assessment of Clayton Chemical Company, which indicates that most distillation units were

²⁹*Ibid.*, p. 5-12.

³⁰Deposition transcript, Ronnie G. Wyatt (May 24, 2004), pp. 50-55 and pp. 81-83.

³¹Application for a Supplemental Permit for the Disposal of Special and/or Hazardous Waste at an IEPA Permitted Solid Waste Management Site, Mal Landfill Corporation (Special Waste Generator, Clayton Chemical Company) (CCPRP 009744 - 009745).

³²Deposition transcript, Ronald Entrup (May 7, 2003), p. 74.

³³Deposition transcript, Bud Haney (May 25, 2004), pp. 53-54 and pp. 71-72.

owned and operated by Clayton Chemical Company before 1965.³⁴ It was in 1980 that Clayton Chemical first put its thin film evaporator into service.³⁵ Thereafter, Clayton Chemical used its thin film evaporator almost exclusively to reclaim spent solvents.³⁶ One distillation unit was ultimately used for the sole reclamation of acetone.³⁷

In addition, the RCRA Facility Assessment of the Clayton Chemical Company notes a number of solid waste management units from which hazardous substance releases occurred or potentially occurred. They include the following:³⁸

- The Waste Drum Storage Dock;
- Distillation Units #3 and #4;
- The Tank Farm including Tanks 11 through 14, 27, 28, 18, R-1, and 43, along with the Solvent Recovery Still #2, the Shaker Screen, and the Drum Accumulation Area;
- The Bliss Underground Storage Tank; and
- The Bliss Vertical Tanks.

With respect to the Bliss Underground Storage Tank, the Facility Assessment notes that IEPA officials discovered punctured holes in the tank's bottom and sides, "so as to allow for the intended, continuous release of materials to the surrounding subsurface environment."

³⁴Michael D. Grant and Steve Noblitt, RCRA Facility Assessment, Clayton Chemical Company, #1 Mobile Avenue, Sauget, Illinois (undated), p. 5-18.

³⁵*Ibid.*, p. 5-26.

³⁶Deposition transcript, Bud Haney (May 25, 2004), pp. 48-49.

³⁷Michael D. Grant and Steve Noblitt, RCRA Facility Assessment, Clayton Chemical Company, #1 Mobile Avenue, Sauget, Illinois (undated), pp. 5-18 - 5-20.

³⁸*Ibid.*, p. 5-41.

Even routine operations resulted in releases to the environment. Mr. Bud Haney testified that the valves on the company's equipment leaked ("... *all* (emphasis added) valves leak.").³⁹

Environmental studies conducted during the CERCLA Combined Assessment of the Clayton Chemical plant site reveal that the operations of Clayton Chemical Company contaminated the surface and subsurface soils and groundwater at the former plant site with hazardous substances.⁴⁰ This could only have resulted from periodic releases to the environment.

Clayton Chemical Company was also connected to the Sauget sewer system.⁴¹ Wastewaters were formerly collected in three plant areas before they were combined and directed to the regional pretreatment facility operated by the Village of Sauget.⁴² The chemical analysis of wastewater analyzed in 1984-1986 and 1988 from the Sauget sewer system and the effluent from the Clayton Chemical Company plant consistently revealed hazardous substance contamination (see Section 4.0).⁴³ Furthermore, in 1986, hazardous substances were identified in the vacuum pump overflow collected on the Clayton Chemical Company plant site (see Section 4.0. These multiple sources of contamination were clearly connected with the practices formerly conducted by Clayton Chemical Company.

³⁹Deposition transcript, Bud Haney (May 25, 2004), pp. 56-57.

⁴⁰CERCLA Combined Site Assessment Inspection Report for Clayton Chemical, ILD066918327, Sauget, Illinois, Illinois Environmental Protection Agency (June 18, 2002), Table 4.

⁴¹Deposition transcript, Bud Haney (May 25, 2004), pp. 91-92.

⁴²Science Applications International Corporation, Sampling Trip Report, Solvent Recovery Industry, Clayton Chemical Company, Sauget, IL (March 24, 1988), p. 2-1 (CCPRP 009614 - 009633).

⁴³Environmental Analysis, Inc., Report of Analysis (October 21, 1988) (CCPRP 007794 - 007801); Envirodyne Engineers, Report of Analysis (November 20, 1985 and January 23, 1986) (CCPRP 005307 - 005313 and CCPRP 005277 - 005283); Teklab Report #38-7 (May 13, 1984) (CCPRP 005266 - 005268); and Enviropact, Inc., Report of Analysis (June 3, 1986) (CCPRP 005273 - 005276).

2.1 The Nature of Wastes Generated by Clayton Chemical Company

As noted in Section 2.0, Clayton Chemical Company reclaimed spent solvents by means of steam stripping, thin film evaporation, and fractionation. Each process is a method of separating the components of a liquid mixture. All are based upon the difference in composition between the liquid mixture and the vapor formed from it.⁴⁴

Steam stripping, also called steam distillation, involves the direct injection of live steam into a spent solvent followed by condensation of the evolved vapor. Steam stripping is commonly used as a method of solvent reclamation when the solvent is immiscible with water. Some engineering details of a steam stripper utilized by Clayton Chemical Company are provided in the RCRA Facility Assessment of the Clayton Chemical Company plant.⁴⁵ During implementation of the process, the steam carried the constituent solvent from the distillation pot to a receiver where it condensed. Thereafter, the solvent may have been separated from the condensed water.

Thin film evaporation is another method of separating the components of a liquid mixture. It is based upon the evaporation of the components of a thin film of material. Some details of the thin film evaporator utilized by Clayton Chemical Company are provided in the RCRA Facility Assessment of the Clayton Chemical Company plant.⁴⁶ The liquid mixture was heated and passed into a zone where a rotor distributed it evenly as a thin film upon a heated surface. The turbulent motion generated by the rotor caused the film to move slowly along the heated surface. As this

⁴⁴Kirk-Othmer, *Encyclopedia of Chemical Technology* (New York, NY: John Wiley & Sons, Inc., 1993), pp. 311-358.

⁴⁵Michael D. Grant and Steve Noblitt, RCRA Facility Assessment. Clayton Chemical Company, #1 Mobile Avenue, Sauget, Illinois (undated), #3 Distillation System, pp. 5-18 - 5-21.

⁴⁶*Ibid.*, pp. 5-26 - 5-27.

occurred, the volatile component evaporated. The vapor was thereafter condensed and collected in a separate receiver.

As noted in Section 2.0, steam stripping and thin film evaporation may produce solvent blends, the constituents of which typically possess similar boiling points. These constituents can be isolated by fractionation, which involves the use of a fractionation column. Due to the manner by which the column is engineered, the individual compounds within a blend can be separated from one another.

Chemical Nature of the Still Bottoms Generated by Clayton Chemical Company

In 1986, Clayton Chemical Company was selected as a facility that could provide data and information for a USEPA report titled "Decision Document for Solvent Recycling Industry Effluent Guidelines." During the course of the industry study, a sample of the company's "well-mixed blend of still bottoms" was collected and subjected to chemical analysis.⁴⁷ Some analytical results are shown in the following table:

TABLE B

CHEMICAL CONSTITUENTS OF STILL BOTTOMS GENERATED BY CLAYTON CHEMICAL COMPANY

Hazardous Substance	Concentration (mg/kg)
1,1,1-Trichloroethane	15,422
2-Butanone	7,561,900
Acetone	110,364
Ethylbenzene	298,600
Methylene chloride	10,299

⁴⁷Science Applications International Corporation, Sampling Trip Report, Solvent Recovery Industry, Clayton Chemical Company, Sauget, IL (March 24, 1988), pp. 4-3 - 4-4 (CCPRP 009614 - 009633).

Toluene	229,730
Trichloroethylene	5779
Antimony	117
Arsenic	6
Barium	4510
Cadmium	112
Chromium	1390
Lead	55,600
Mercury	6.5
Zinc	4650

These data illustrate that a number of metal constituents were contained within Clayton Chemical Company's still bottoms in addition to remnants of the solvents that had been reclaimed.

Based on information provided to IEPA,⁴⁸ Clayton Chemical Company treated hazardous wastes having the EPA identification numbers F001, F002, F003, and F005. EPA describes these wastes at 40 C.F.R. §261.31. It not only identifies their constituents, but EPA also includes the words "*and still bottoms from the recovery of these spent solvents and spent solvent mixtures* (emphasis added)." Hence, the still bottoms generated during the reclamation of hazardous wastes having the EPA identification numbers F001, F002, F003, and F005 are also RCRA-regulated hazardous wastes.

Expert Opinion:

EPA lists the constituents of hazardous wastes having the EPA identification numbers F001, F002, F003, and F005, including their still bottoms, in Appendix VII following 40 C.F.R. Part 261.

⁴⁸Notification of Hazardous Waste Site, executed by Bud Haney, Clayton Chemical Company (June 8, 1981) (PL00031 - 00032).

Based upon this information, it is the author's expert opinion to a reasonable degree of scientific certainty that the still bottoms generated by Clayton Chemical Company contained the hazardous substances indicated below, as relevant:

EPA Hazardous Waste Number	Constituents of still bottoms
F001	Tetrachloroethylene, methylene chloride, 1,1,1-trichloroethane, carbon tetrachloride, and/or chlorinated fluorocarbons
F002	Tetrachloroethylene, methylene chloride, 1,1,1-trichloroethane, carbon tetrachloride, and/or chlorinated fluorocarbons
F003	Xylene, acetone, ethyl acetate, ethylbenzene, ethyl ether, methyl isobutyl ketone, <i>n</i> -butyl alcohol, cyclohexanone, and/or methanol
F005	Toluene, methyl ethyl ketone, carbon disulfide, isobutanol, pyridine, benzene, 2-ethoxyethanol, and/or 2-nitropropane

It is also the author's professional opinion to a reasonable degree of scientific certainty that at least some still bottoms generated by Clayton Chemical Company contained a number of metals, including antimony, arsenic, barium, cadmium, chromium, lead, mercury, and zinc.

Finally, based on the environmental data set forth herein in Sections 4.0, 5.0, and 6.0, it is the author's professional opinion to a reasonable degree of scientific certainty that hazardous substances like those in wastes treated by Clayton Chemical Company have been released into the environment at the Clayton Chemical Company plant site and at Sites S and Q.

3.0 The Nature of Marchem Corporation's Business Operations

During the relevant period, M-R Plastics & Coatings, Inc., later known as Marchem Corporation, operated a chemical manufacturing facility located on Dorsett Road. Beginning in the early 1980s, the company operated at 2500 Adie Road, Maryland Heights, MO. The company

manufactured vinyl plastisols, urethane systems, and epoxy and solvent-based vinyl coatings.⁴⁹

Marchem employee Sandon Wool described the nature of vinyl plastisols and urethane systems as follows:⁵⁰

- A vinyl plastisol is a dispersion of a PVC resin powder and a liquid plasticizer. Mistiflex is the tradename for Marchem Corporation's vinyl plastisols.⁵¹
- Urethane systems are composed of two components, polyols and isocyanates, to which surfactants or pigments may be added.

These products were used by customers as adhesives, sealants, and molding compounds.⁵²

At one time, the company also produced rigid polyurethane foams. Like other polyurethanes, the rigid foam was produced by combining a polyol and diisocyanate (such as methylene diphenyl diisocyanate) within a tank.⁵³

In this industry, it is typical that adhesives, sealants, and molding compounds are produced by mixing ingredients to specified formulations. In many instances, the manufacture of these products require the use of compounds such as phthalates, pigments, and stabilizers which, when treated or disposed of, are hazardous substances within the meaning of CERCLA.

⁴⁹Deposition transcript, Sandon L. Wool (June 23, 2004), p. 11, p. 21, and p. 28.

⁵⁰*Ibid.*, pp. 28-30.

⁵¹*Ibid.*, p. 53.

⁵²*Ibid.*, pp. 52-53.

⁵³*Ibid.*, pp. 33-34.

3.1 The Business Relationship Between Marchem Corporation and Clayton Chemical Company

Messrs. Ronnie G. Wyatt and Ronald Entrup, former employees of Clayton Chemical Company, testified independently that they recalled Marchem Corporation and M-R Plastics & Coatings as business customers of Clayton Chemical Company.^{54,55} Mr. Wyatt testified that solvents were delivered to Clayton Chemical Company in drums during the early 1970s, while Mr. Entrup recalled that in 1974 and thereafter, M-R Plastics sent its spent solvents in drums and tote tanks for reclamation once a month or once every other month.

The business relationship between these companies is also evident from reviewing three types of existing records: Clayton Chemical Company's invoices, Clayton Chemical's Monthly Hazardous Waste Log for July 1977, and Marchem Corporation's Hazardous Waste Transportation Manifest record.⁵⁶ Information pertaining to the invoice record and the log for July 1977 is summarized in Table C.

TABLE C

**INVOICE INFORMATION PERTAINING TO
M-R PLASTICS & COATINGS COMPANY**

Invoice Number	Date of Receipt	Amount (gal)
4355	4-19-76	3245
4400	6-15-76	2860
4423	7-23-76	1650
4443	9-19-76	2970

⁵⁴Ronnie G. Wyatt (May 24, 2004), p. 34 and p. 38.

⁵⁵Deposition transcript, Ronald Entrup (May 7, 2003), p. 297.

⁵⁶Hazardous Waste Manifests Submitted by Marchem Corporation to the State of Illinois, Illinois Environmental Protection Agency, Division of Land Pollution Control, Springfield, IL (Polyone000001 - 000070).

4505	11-05-76	2475
4557	2-10-77	1210
4592	3-11-77	1265
		1540
4684	6-20-77	2200
	7-05-77	2200
	7-25-77	755
	7-28-77	1155
	Total	23,525

Table C reveals that in 1976 and 1977, Clayton Chemical Company reclaimed no less than 23,525 gal of waste on behalf of M-R Plastics & Coatings Company.

Information from the existing hazardous waste manifest record is provided in Table D.

TABLE D
MANIFEST INFORMATION RELATING TO MARCHEM CORPORATION

Manifest Number	Date of Receipt	Amount (gal)
IL3071221	5-19-89	1060
IL3071222	11-03-89	1333
IL3071223	5-25-90	1538
IL3071225	3-13-91	655
IL3071226	6-07-91	850
IL3071240	9-06-91	598
IL3071228	12-11-91	1400
IL3071227	3-18-92	795
IL3071234	6-01-92	1568
IL3071229	10-07-92	1125
	Total	10,922

It reveals the following:

- Marchem Corporation and Clayton Chemical Company shared a business relationship at least between 5-19-89 and 10-07-92.
- Marchem Corporation retained Superior Equipment Company to deliver wastes to Clayton Chemical Company.
- The total volume of the known individual shipments from Marchem Corporation to Clayton Chemical Company was no less than 10,922 gal of solvent wastes from 5-19-89 to 10-07-92.

The combined information from Tables C and D indicates that Clayton Chemical Company reclaimed no less than 34,447 gal of waste on behalf of Marchem Corporation and M-R Plastics & Coatings Company, Inc.

3.2 The Chemical Nature of the Wastes Generated by Marchem Corporation

The nature of the shipping descriptions on transportation manifests provides information concerning the chemical composition of the wastes being transported to Clayton Chemical Company. This information is summarized in the following table.

TABLE E

SHIPPING DESCRIPTIONS OF WASTES

Manifest Number	Shipping Description
IL3071221	Waste Flammable liquid, nos, Flammable Liquid, UN1993 (F002)
IL3071222	Waste Flammable liquid, nos, Flammable Liquid, UN1993 (F002)
IL3071223	Waste Flammable liquid, nos, Flammable Liquid, UN1993 (F002)
IL3071225	Waste Flammable liquid, n.o.s., Flammable Liquid, UN1993 (F003)
IL3071226	Waste Flammable liquid, n.o.s., Flammable Liquid, UN1993 (F003)
IL3071240	Waste Flammable liquid, n.o.s., Flammable Liquid, UN1993 (F003)

IL3071228	Waste Flammable liquid, n.o.s., Flammable Liquid, UN1993 (methylene chloride, acetone, and toluene) (F003)
IL3071227	Waste Flammable liquid, n.o.s., Flammable Liquid, UN1993 (contains methylene chloride, acetone, and toluene) (F003)
IL3071234	Waste Flammable liquid, n.o.s., Flammable Liquid, UN1993 (contains methylene chloride, acetone, and toluene) (F003)
IL3071229	Waste Flammable liquid, n.o.s., Flammable Liquid, UN1993 (F003)

These shipping descriptions provide the following information concerning the wastes generated by Marchem Corporation and delivered to Clayton Chemical Company for reclamation:

- Certain wastes contained hazardous substances that included methylene chloride, acetone, and toluene. Mr. Wool testified that these solvents were generated in connection with cleaning the tanks used by the company to produce and manufacture its products.⁵⁷
- Certain wastes were RCRA-regulated hazardous wastes denoted by the following EPA hazardous waste numbers and having the indicated designations:

F002	As set forth at 40 C.F.R. §261.31, the wastes contained one or more of the following halogenated solvents: tetrachloroethylene, methylene chloride, 1,1,1-trichloroethane, carbon tetrachloride, and chlorinated fluorocarbons ... and still bottoms from the recovery of these spent solvents and spent solvent mixtures.
F003	As set forth at 40 C.F.R. §261.31, the wastes contained one or more of the following non-halogenated solvents: xylene; acetone; ethyl acetate; ethylbenzene; ethyl ether; methyl isobutyl ketone; <i>n</i> -butyl alcohol; cyclohexanone; or methanol...and still bottoms from the recovery of these spent solvents and spent solvent mixtures.

⁵⁷Deposition transcript, Sandon L. Wool (June 23, 2004), pp. 47-49.

The manifests also denote the shipments of Marchem Corporation's wastes by the USDOT identification number UN1993. This number refers to "flammable liquids, n.o.s."⁵⁸

Expert Opinion:

Based upon a combination of the foregoing, it is the author's professional opinion to a reasonable degree of scientific certainty that during the relevant period, Marchem Corporation and M-R Plastics & Coatings Company, Inc. generated wastes that were delivered to Clayton Chemical Company for treatment, storage, and/or disposal. These wastes contained at least acetone, methylene chloride, and toluene. Given the wide variety of products manufactured by the company, it is more likely than not that their spent solvents contained residues of phthalates, metallic compounds, and other hazardous substances.

4.0 Release at the Clayton Chemical Company of Waste Constituents Like Those Generated by Marchem Corporation

The compilation of data in Tables F, G, and H demonstrates that hazardous substances like those in Marchem Corporation's wastes were constituents of soil backhoe, soil boring, and groundwater samples collected from the Clayton Chemical Company plant site:^{59,60,61}

⁵⁸USDOT identification numbers are designated in the Hazardous Materials Table at 49 C.F.R. §172.101.

⁵⁹Final Draft, Clayton Chemical Site, Sauget, St. Clair County, Illinois, Removal Assessment Report (September 6, 2001), Tables 4-1, 4-4, and 4-6.

⁶⁰*Ibid.*, Table 4-7.

⁶¹*Ibid.*, Tables 4-3 and 4-8.

TABLE F**HAZARDOUS SUBSTANCES IN SOIL BACKHOE SAMPLES COLLECTED
FROM THE CLAYTON CHEMICAL COMPANY PLANT SITE**

Sample Number	Hazardous Substance	Maximum Concentration (mg/kg)	Citation
SS-013-05	Toluene	0.035	p. B-20
SB-013-09	Acetone	4.30	p. B-18
SB-013-05	Methylene chloride	0.014	p. B-18

TABLE G**HAZARDOUS SUBSTANCES IN SOIL BORING SAMPLES COLLECTED
FROM THE CLAYTON CHEMICAL COMPANY PLANT SITE**

Sample Number	Hazardous Substance	Maximum Concentration (mg/kg)	Citation
SB-013-01	Toluene	72	p. B-25
SB-013-02	Acetone	0.2	p. B-23
SB-013-02	Methylene chloride	0.02	p. B-23

TABLE H**HAZARDOUS SUBSTANCES IN GROUNDWATER SAMPLES COLLECTED THE
AQUIFER BENEATH THE CLAYTON CHEMICAL COMPANY PLANT SITE**

Sample Number	Hazardous Substance	Maximum Concentration (mg/L)	Citation
GW-013-10	Toluene	0.003J	p. B-30

Hazardous substances like those in Marchem Corporation's wastes were also constituents of wastewater collected on the Clayton Chemical Company property. Toluene was identified in a sample of wastewater at a concentration of 152 µg/L;⁶² in a sample of cooling water and commingled

⁶²Environmental Analysis, Inc., Report of Analysis (October 21, 1988) (CCPRP 007794 - 007801).

nonprocess wastewater at a concentration of 42 µg/L;⁶³ and in a sample of vacuum pump overflow at a concentration of 937 µg/L.⁶⁴

Expert Opinions:

It is the author's professional opinion to a reasonable degree of scientific certainty that hazardous substances like those in wastes treated, stored, and/or disposed of on behalf of Marchem Corporation have been released into the environment at the Clayton Chemical Company plant site. It is also the author's professional opinion to a reasonable degree of scientific certainty that a release or threat of a release of similar hazardous substances into the groundwater aquifer underlying the Clayton Chemical Company plant site exists.

5.0 Release at Site S of the Sauget Area 2 Superfund Site of Waste Constituents Like Those Generated by Marchem Corporation

During preparation of the RI/FS for the Sauget Area 2 Superfund Site, samples of surface soils, subsurface soils, and groundwater were collected and subjected to chemical analysis to assess the extent of contamination within Site S. Some relevant information is summarized in Tables I and J.⁶⁵

⁶³Science Applications International Corporation, Sampling Trip Report, Solvent Recovery Industry, Clayton Chemical Company, Sauget, IL (March 24, 1988), p. 4-8 (CCPRP 009614 - 009633).

⁶⁴*Ibid.*, p. 4-10.

⁶⁵Sauget Area 2 RI/FS Report - Surface Soil, Subsurface Soil, and Groundwater, Seeps, and Leachate (Volatile Organic Compounds and Inorganic Data) (March 27, 2003) Tables 3-1a, 4-1, and 5-1.

TABLE I
HAZARDOUS SUBSTANCES IN SURFACE AND SUBSURFACE SOIL SAMPLES
COLLECTED FROM SITE S DURING RI/FS

Sample Number	Hazardous Substance	Concentration (µg/kg)
SOIL-S-1-0.5	Acetone	14J
SOIL-S-1-6FT	Acetone	110,000
	Dichloromethane	26,000
	Toluene	1,400,000
SOIL-S-2-6FT	Dichloromethane	13,000
	Toluene	470,000

TABLE J
HAZARDOUS SUBSTANCES IN GROUNDWATER SAMPLES COLLECTED FROM
SITE S DURING RI/FS

Sample Number	Hazardous Substance	Concentration (µg/L)
GW-AA-S-1-124	Toluene	0.79J
GW-AA-S-1-24FT	Toluene	0.41J
GW-AA-S-1-64	Dichloromethane	0.42J
GW-AA-S-84FT	Toluene	0.46J
GW-AA-S-3-114FT	Toluene	1.4J
GW-AA-S-3-132FT	Toluene	1.2J
GW-AA-S-3-24FT	Toluene	0.41J
GW-AA-S-3-44FT	Toluene	0.34J

Expert Opinions:

It is the author's professional opinion to a reasonable degree of scientific certainty that hazardous substances like those in wastes treated and disposed of on behalf of Marchem Corporation have been released into the environment at Site S. It is also the author's professional opinion to a

reasonable degree of scientific certainty that prior to the onset of remediation, these hazardous substances were commingled in the surface and subsurface soils and groundwater beneath the Site with the hazardous substances associated with the wastes generated by other parties.

6.0 Release at Site Q of the Sauget Area 2 Superfund Site of Waste Constituents Like Those Generated by Marchem Corporation

As summarized in Tables K and L, hazardous substances like those in wastes generated by Marchem Corporation were constituents of soil and groundwater samples collected from Site Q of the Sauget Area 2 Superfund Site.^{66,67}

TABLE K
HAZARDOUS SUBSTANCES IN SOIL SAMPLES COLLECTED FROM SITE Q

Sample Number	Location	Constituent	Concentration (µg/kg)
X-104	Southwest corner of dog leg of Site Q, east of Site R	Acetone	1100J
		Toluene	4800
X-105	SW portion of Site Q, at the south end of Eagle Marine's operation near the bank of the Mississippi River	Acetone	72B
X-111	Central portion of Site Q, east of Eagle Marine's landscape material storage area	Acetone	500J

⁶⁶Trip Report for: Sauget Area 2, Sauget, Illinois ILD000605790, Illinois Environmental Protection Agency, Bureau of Land, Federal Site Remediation Section, Site Assessment Unit (March 2000), Soil Sample Summary and Sample Descriptions (PL00484 -00488 and PL00496 - 00498).

⁶⁷*Ibid.*, Groundwater Sample Summary and Sample Descriptions (PL00489 - 00491 and PL00496 - 00498).

X-112	South-central portion of Site Q, at south end of Eagle Marine's operation	Toluene	1400J
		Acetone	3JB
		Methylene chloride	2JB

TABLE L

HAZARDOUS SUBSTANCES IN GROUNDWATER SAMPLES COLLECTED FROM SITE Q

Sample Number	Location	Constituent	Concentration (µg/L)
G-104	Bore hole approximately one foot south of X-103	Acetone	320
		Methylene chloride	30J
		Toluene	1000
G-106	Central west portion of Site Q, at bank of the Mississippi River, west of Eagle Marine's operations	Acetone	2J
G-107	Same borehole as X-105	Acetone	5J
G-108	Same borehole as X-106	Acetone	4
G-116	Same borehole as X-111	Acetone	8J

During preparation of the RI/FS for the Sauget Area 2 Superfund Site, samples of surface soils, subsurface soils, and groundwater were collected and subjected to chemical analysis to assess the extent of contamination within Site Q. Some relevant information is summarized in Tables M,

N, and O.⁶⁸

TABLE M
HAZARDOUS SUBSTANCES IN SURFACE SOIL SAMPLES COLLECTED FROM
SITE Q DURING RI/FS

Sample Number	Hazardous Substance	Concentration (µg/kg)
SOIL-Q-15-0.5	Acetone	2.3J
	Toluene	1.3J
SOIL-Q-16-0.5	Acetone	150J
	Toluene	5.3J
SOIL-Q-17-0.5	Acetone	180J
	Toluene	3.4J
SOIL-Q-18-0.5	Acetone	91
	Toluene	4.2J
SOIL-Q-19-0.5	Toluene	1J
SOIL-Q-20-0.5	Acetone	260J
	Dichloromethane	3.6J
	Toluene	18
SOIL-Q-6-0.5	Acetone	23J
SOIL-Q-7-0.5	Acetone	61J
SOIL-Q-7-0.5-DUP	Acetone	910J
SOIL-Q-8-0.5	Acetone	68J

⁶⁸Sauget Area 2 RI/FS Report - Surface Soil, Subsurface Soil, and Groundwater, Seeps, and Leachate (Volatile Organic Compounds and Inorganic Data) (March 27, 2003) Tables 3-1a, 4-1, and 5-1.

TABLE N
HAZARDOUS SUBSTANCES IN SUBSURFACE SOIL SAMPLES COLLECTED FROM
SITE Q DURING RI/FS

Sample Number	Hazardous Substance	Concentration (µg/kg)
SOIL-Q-1-6FT	Acetone	3000J
	Toluene	47,000
SOIL-Q-2-6FT	Acetone	2700J
	Toluene	330J
SOIL-Q-10-6	Acetone	48J
SOIL-Q-11-6	Acetone	230J
	Toluene	19J
SOIL-Q-12-6	Toluene	1,300,000
SOIL-Q-2-6FT	Acetone	2700J
SOIL-Q-6-6	Acetone	160J
SOIL-Q-7-6	Acetone	190J
	Toluene	64
SOIL-Q-8-6	Acetone	170J
	Toluene	70
SOIL-Q-8-6DUP	Acetone	27J
	Toluene	97

TABLE O
HAZARDOUS SUBSTANCES IN GROUNDWATER SAMPLES COLLECTED FROM
SITE Q DURING RI/FS

Sample Number	Hazardous Substance	Concentration (µg/L)
GW-AA-Q-1-110	Toluene	0.39J
GW-AA-Q-1-127 ½	Toluene	1.5J
GW-AA-Q-1-50	Acetone	11J

GW-AA-Q-1-60	Acetone	16J
GW-AA-Q-2-110	Toluene	0.29J
GW-AA-Q-2-110 DUP	Toluene	0.57J
GW-AA-Q-2-120	Toluene	0.57J
GW-AA-Q-2-70	Toluene	0.34J
GW-AA-Q-2-90	Toluene	0.54J
GW-AA-Q-3-70	Toluene	0.36J
GW-AA-Q-4-50	Toluene	0.36J
GW-AA-Q-4-60	Toluene	0.34J
GW-AA-Q-4-70	Toluene	0.38J
GW-AA-Q-4-80	Toluene	0.32J
GW-AA-Q-5-45	Toluene	1.2
GW-AA-Q-5-55	Acetone	14J
GW-AA-Q-5-65	Toluene	2.8
GW-AA-Q-5-75DUP	Toluene	1.2
GW-AA-Q-5-85	Toluene	1.2
GW-AA-Q-5-95	Acetone	22J
	Toluene	6.9
GW-AA-Q-6-104	Toluene	0.66J
GW-AA-Q-6-110	Toluene	0.48J
GW-AA-Q-6-24	Acetone	61J
	Toluene	66
GW-AA-Q-6-24 DUP	Acetone	53J
	Toluene	70
GW-AA-Q-6-34	Toluene	52J
GW-AA-Q-6-34 DUP	Toluene	49J
GW-AA-Q-6-44	Toluene	4.7J
GW-AA-Q-6-54	Toluene	3.8

GW-AA-Q-6-64	Acetone	24J
	Toluene	0.88J
GW-AA-Q-6-74	Acetone	14J
	Toluene	0.69J
GW-AA-Q-6-84	Toluene	9.4
GW-AA-Q-6-94	Dichloromethane	1.2J
	Toluene	1.1
GW-AA-Q-7-104 DUP	Toluene	0.35J
GW-AA-Q-7-44	Dichloromethane	1J
GW-AA-Q-7-54	Dichloromethane	1J
	Toluene	0.3J
GW-AA-Q-7-74	Dichloromethane	1J
	Toluene	0.37J
GW-AA-Q-7-84	Dichloromethane	1J
GW-AA-Q-7-94	Toluene	0.3J
GW-AA-Q-8-44	Toluene	0.29J
GW-AA-Q-8-54	Toluene	0.38J

Expert Opinions:

It is the author's professional opinion to a reasonable degree of scientific certainty that hazardous substances like those in wastes treated and disposed of on behalf of Marchem Corporation have been released into the environment at Site Q. It is also the author's professional opinion to a reasonable degree of scientific certainty that prior to the onset of remediation, these hazardous substances were commingled in the surface and subsurface soils and groundwater beneath the Site with the hazardous substances associated with the wastes generated by other parties.

7.0 Disclosure of Professional Qualifications

A copy of the résumé of the author setting forth professional qualifications and work experience is attached hereto as Table P. The author has been compensated for work on this matter at the rate of \$200/hr.

During the past four years, the author has provided deposition or trial testimony in connection with the following matters:

United States of America and the State of Texas v. Atlantic Richfield Company, Crown Central Petroleum Corporation, The Goodyear Tire & Rubber Company, Occidental Chemical Corporation, Rohm and Haas Company, Shell Oil Company, El Paso Tennessee Pipeline Company, EPEC Corporation, EPEC Polymers, Inc., Tennessee Gas Pipeline Corporation, Petro-Tex Chemical Corporation, Exxon Corporation, Phillips Petroleum Company, and Vacuum Tanks, Inc., Civil Action No. H-98-0408 (Southern District of Texas). (Deposition testimony)

United States of America v. William M. Gurley, Civil Action No. 3:00CV00077 SMR (Eastern District of Arkansas). (Trial testimony)

United States of America v. Vertac Chemical Corporation, Hercules, Inc., The Dow Chemical Corporation, and Uniroyal Chemical Limited, f/k/a Uniroyal Limited; Arkansas Department of Pollution Control and Ecology v. Vertac Chemical Corporation, Hercules, Inc., The Dow Chemical Corporation, and Uniroyal Chemical Limited f/k/a Uniroyal Limited (consolidated matters), Civil Action No. LR-C-80-110 (Eastern District of Arkansas). (Trial testimony)

Commonwealth of Massachusetts, Boston Redevelopment Authority, and Massachusetts Convention Center Authority v. Boston Edison Company, SAK Recycling Corporation, Fiore Construction Company, Inc. and Walter Fiore, Civil Action Nos. 96-0673A and 96-0628D (consolidated matters) (Commonwealth of Massachusetts). (Deposition testimony)

United States of America v. Pharmacia Corporation, et al; Pharmacia Corporation and Solutia Inc. v. United States of America, et al., Civil Action No. 99-63-DRH (Southern District of Illinois). (Deposition testimony)

United States of America v. EPEC Polymers, Inc.; Lyondell Chemical Company et al. v. Albemarle Corporation et al. (consolidated actions), Civil Action Nos. 1:02-CV-003, 1:02-CV-890, and 1:03-CV0225 (Eastern District of Texas). (Deposition testimony)

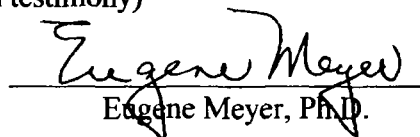

Eugene Meyer, Ph.D.

TABLE P

RÉSUMÉ OF DR. EUGENE MEYER

General Summary

Over thirty years of experience as a professor, author, consultant and recognized national expert in hazardous waste chemistry; developed hazardous waste management training programs and provided expert testimony in hazardous waste enforcement actions; and conducted research in the fields of nuclear and physical chemistry.

Education

Post-doctoral fellow, Instituut voor Kernfysisch Onderzoek, Amsterdam, The Netherlands
Ph.D., Chemistry, Florida State University, Tallahassee, Florida
B.S. (magna cum laude), Chemistry, Lewis University, Lockport, Illinois

Selected Experience

Developed training programs on the federal hazardous waste management regulations and on proper management practices for hazardous waste treatment, storage and disposal facilities. These training programs were provided to U.S. Environmental Protection Agency employees, members of the hazardous waste industry, medical officials, manufacturing engineers and other interested parties.

Assisted in the writing of the U.S. EPA document titled, "Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods, SW-846." This document provides the analytical methodologies to be used by chemical laboratories when ascertaining the quantities of specified metals and pesticides in samples of chemical waste.

Supervised thirty professional staff members of U.S. EPA's Region V's Waste Management Branch. The branch was responsible for the implementation of the federal hazardous waste management program, including compliance inspections and permit issuance.

For U.S. EPA Region V, provided expertise in hazardous waste chemistry. Duties included development of technical reports and position papers; advising regional staff on the development and implementation of the federal hazardous waste management program; advising regional staff on the review of RCRA Part A and Part B Applications and TSCA PCB Approval Applications; serving as an Expert Witness during litigation proceedings; and providing technical assistance to industry, state governments and local government agencies.

Environmental Management

For the State of Illinois' Emergency Services and Disaster Agency, developed a computer-based system for the tracking of shipments of hazardous materials within the borders of the State of Illinois. Also developed emergency procedures for handling transportation incidents involving hazardous materials.

Developed and provided safety seminars on hazardous materials management practices, and on hazardous waste treatment, storage and disposal procedures. Seminars were provided to engineers, insurance personnel, firefighters, police, attorneys and others.

Reviewed RCRA Part B Applications for completeness and technical adequacy, subsequent to their submittal by hazardous waste management treatment, storage and disposal facilities to U.S. EPA.

Expert Witness

Provided expert testimony and technical assistance to Federal and State agencies during pollution litigation. The following summarizes this experience generally, but a complete listing has also been provided herein:

Provided expert testimony at trial on behalf of the United States in CERCLA actions brought in the Eastern District of Missouri, Northern District of Indiana, District of South Carolina, District of New Hampshire, Western District of Oklahoma, Northern District of Texas, District of Utah, District of Rhode Island, Eastern District of Arkansas, and Northern District of New York.

Provided expert testimony at trial for the State of Illinois and the Commonwealth of Pennsylvania;

Provided expert testimony at trial for non-government clients in the Northern and Western Districts of Oklahoma.

Assisted the U. S. EPA's Federal Hazardous Waste Enforcement Task Force and the Office of Solid Waste Enforcement in the development of RCRA and CERCLA ("Superfund") enforcement actions.

Provided technical assistance to the United State Department of Justice (U.S. DOJ) in several CERCLA actions of national prominence brought against the following defendants, among others: Chem-Dyne Corporation, Seymour Recycling Corporation, Conservation Chemical Company, Ottati and Goss, Inc., A & F Materials Company, Inc., and Royal N. Hardage.

Industrial Consulting

Provided technical direction to professionals in the nursing and medical technology fields. Prepared individuals, clinics and schools for state examinations and certification by State and Federal health boards.

Developed seminars for firefighters on firefighting tactics and arson investigations.

Participated in investigations of fires caused by chemical substances; provided technical direction and conducted facilities inspections.

Inspected buildings to determine compliance with local and national fire codes; reviewed proposed plans for compliance with NFPA-30.

For Argonne National Laboratory, participated in research programs in high energy-induced nuclear reactions.

Professional Experience

President, Meyer Environmental Consultants, Inc.

Manager, A.T. Kearney, Inc., Manufacturing Services Group

Chief, Technical Programs Section, Waste Management Branch, United States Environmental Protection Agency, Region V; Regional Expert on the Chemistry of Hazardous Waste

Consultant, NALCO Chemical Corporation

Consultant, ZGS Division, Argonne National Laboratory

Professor of Chemistry and Chairman of the Division of Natural Sciences, Lewis University

Publications

Introduction to Modern Chemistry, Prentice-Hall, Inc. (Englewood Cliffs, New Jersey, 1979).

Chemistry of Hazardous Materials, Prentice-Hall, Inc. [Englewood Cliffs, New Jersey, 1977 (first edition), 1989 (second edition), 1998 (third edition), 2005 (fourth edition)].

"Mass Distribution in the Fission of ^{238}U with ^3He Ions," *Journal of Inorganic and Nuclear Chemistry*, 33:2745 (1971).

"Harmonic Vibrations of Spherical Nuclei," *American Journal of Physics*, 38:1202 (1970).

"Osmotic and Activity Coefficients of Ammonium Heteropolymolybdates," *Journal of Physical Chemistry*, 74:164 (1970).

"Cluster Configurations in Nuclei," *American Journal of Physics*, 37:296 (1969).

"The Shell Model of Nuclear Structure," *American Journal of Physics*, 36:250 (1968).

"Proton-Induced Fission of ^{238}U ," *Journal of Inorganic and Nuclear Chemistry*, 28:1509 (1966).

"The Distribution of Mass and Charge in the Fission of ^{238}U by Low Energy Protons," Ph.D. Dissertation, Florida State University, 1964.

**Environmental Cases in Which
Dr. Eugene Meyer Participated**

1. *United States of America and State of Ohio v. Chem-Dyne Corporation et al.* (Southern District of Ohio).
2. *State of Minnesota v. Industrial Steel Container Company.*
3. *United States of America and South Carolina Department of Health and Environmental Control v. South Carolina Recycling and Disposal, Inc., Columbia Organic Chemical Company, Oscar Seidenberg, Harvey Hutchinson, Monsanto Company, Allied Corporation, Aquair Corporation and EM Industries, Inc.* (District of South Carolina).
4. *United States of America v. Ottati and Goss, Inc. et al.* (District of New Hampshire).
5. *United States of America v. Chemical Recovery Systems et al.* (Southern District of Ohio).
6. *United States of America v. Steve Martell et al.* (Northern District of Illinois).
7. *United States of America v. Acme Refining Company* (Northern District of Illinois).
8. *United States of America and The People of the State of Washington v. The Western Processing Company, Inc. et al.; The Boeing Company v. A & A Anderson Tank Service, Ltd., et al.; American Tar Company, et al. v. A & A Anderson Tank Service, Ltd., et al.; Jack and Leah Pinchev v. United States of America and State of Washington* (Western District of Washington).
9. *People of the State of Illinois v. Crete Metals Company.*
10. *United States of America v. Union National Bank of Chicago et al.* (Northern District of Illinois).
11. *United States of America v. Midwest Solvent Recovery, Inc. et al.* (Northern District of Indiana).
12. *United States of America v. Chemicals and Minerals Reclamation, Inc. et al.* (Southern District of Ohio).
13. *United States of America v. K.C. Coatings, Inc., James E. Reed, Kansas City Terminal Railway Corporation, Jasper Land and Improvement Company, and the Black Economic Union* (Western District of Missouri).
14. *United States of America and State of New York v. Pollution Abatement Services of Oswego, Inc.* (Northern District of New York).
15. *United States of America v. Fischer-Calo Chemicals and Solvent Corporation et al.* (Northern District of Indiana).
16. *United States of America v. Conservation Chemical Company, Armco, Inc., A T & T Technologies, Inc., FMC Corporation, and International Business Machines Corporation* (Western District of Missouri).
17. *United States of America v. Seymour Recycling Corporation et al.* (Southern District of Indiana).
18. *United States of America v. Melvin R. Wade, Eastern Rubber Reclaiming, Inc., ABM Disposal Service Company, Inc., Franklin P. Tyson, Ellis Barnhouse, Larry H. Slass, Apollo Metals, Congoleum Corporation, Gould, Inc., Sandvik Steel, Inc. and H. K. Porter Company, Inc.* (Eastern District of Pennsylvania).
19. *United States of America v. Liquid Disposal, Inc. et al.* (Southern District of Michigan).
20. *United States of America v. A & F Materials Company, Inc., et al.* (Southern District of Indiana).
21. *People of the State of Illinois v. Alburn Incineration, et al.*, No. 82 CH 5589.
22. *People of the State of Illinois v. Wilmer Brockman, Jr., et al.*, No. 81 CH 110.
23. *United States of America v. Allied Chemical Corporation, et al.* (Northern District of California).
24. *United States of America v. Chemical & Pigment Company, et al.* (Northern District of

- California).
25. *United States of America v. Shell Oil Company; State of Colorado v. United States of America and Shell Oil Company* (Rocky Mountain Arsenal) (District of Colorado).
 26. *Warren Greer and Suzanne Greer, et al. v. Waste Management, Inc., et al.* [Cause No. C-268-85 (State of Indiana, Jasper Circuit Court)].
 27. *United States of America v. Miami Drum Services, Inc., et al.* (Southern District of Florida).
 28. *City of St. Anthony v. United States of America* (Third Division, District of Minnesota).
 29. *United States of America v. New Castle County, et al.* (District of Delaware).
 30. *United States of America v. Steel Container Corporation, et al.* (Northern District of Illinois).
 31. *People of the State of Illinois ... and the County of Bureau v. Teledyne, Inc. et al.*, No. 80 CH 23.
 32. *United States of America v. Royal N. Hardage, et al.* (Western District of Oklahoma).
 33. *United States of America v. Dorothy H. Macon, et al.* (Middle District of North Carolina).
 34. *United States of America v. Artel Chemical Corporation, C.S.T., Inc. and West Virginia Chemical Corporation* (Southern District of West Virginia).
 35. *Mola Development Corporation v. United States of America, et al.* (Central District of California).
 36. *United States of America v. Speed-O-Lag, et al.* (Third Division, District of Minnesota).
 37. *B.F. Goodrich Company et al. v. Harold Murtha et al. v. Risdon Corporation et al.* (District of Connecticut).
 38. *United States of America v. Alcan Aluminum Corporation* (Northern District of New York).
 39. *Harry George Werlein, et al., v. United States of America, The United States Department of Defense, The United States Department of the Army, Federal Cartridge Corporation, Honeywell, Inc., Walburn, Ltd., The Minnesota Transfer Railway Company, Norton Ervin Erickson and Sylvester Bendel* (Third Division, District of Minnesota).
 40. *United States Environmental Protection Agency v. City of Rensselaer*, Docket No. TSCA-V-C-112-88 (Region V).
 41. *Neo-Tec Plating v. Mr. Frank, Inc., et al.* (State of Michigan in the Circuit Court for the County of Allegan).
 42. *Key Tronic Corporation v. United States of America* (Eastern District of Washington).
 43. *United States of America v. Cosmo Iacavazzi, as Executor of the Estate of Peter Iacavazzi, Sr., et al.* (Middle District of Pennsylvania).
 44. *United States of America v. Amsted Industries, Inc. d/b/a/ American Steel Foundries* (Northern District of Ohio).
 45. *United States of America v. Alcan Aluminum, Inc., Champion Auto Generator Service, Inc., International Flavors and Fragrances, Inc., Kalama Chemical, Inc., Schultz Electroplating, Inc., S & W Waste, Inc., McAdoo Associates, Inc., Payso, Inc., Edward L. Payer, and Noreen Payer* (Eastern District of Pennsylvania).
 46. *In the Matter of Texas Eastern Gas Transmission Corporation*, Docket No. RP88-67-000 (Phase II) and related cases (Commonwealth of Pennsylvania, Office of Consumer Advocate).
 47. *United States of America v. Charles George Trucking Company, et al.* (District of Massachusetts).
 48. *People of the State of Illinois and the County of Bureau v. Teledyne, Inc., U.S. Ecology, Inc. and American Ecology Corporation*, No. 88 CH 26.

49. *United States of America v. Ralph Riehl, Jr., Max Silver & Sons, A. Arthur Silver, Larry Silver, Eugene Davis, Frieda Davis, Penn Iron & Metal Company, Inc. d/b/a/ Amsource, Liberty Iron & Metal Co., Inc. and Union Iron & Metal Co., Inc.* (Western District of Pennsylvania).
50. *United States of America v. Arrowhead Refining Company et al.* (District of Minnesota, Fifth Division).
51. *United States of America and State of Iowa v. Aceto Agricultural Chemicals Corporation, et al.* (Southern District of Iowa).
52. *United States of America v. Lord Corporation, Rockwell International Corporation, Aardvark Associates, Inc., and Norrell E. Dearing* (Northern District of Ohio).
53. *United States of America v. Norrell E. Dearing, William H. Kraus, Jack Q. Webb, Aardvark Associates, Inc., Lord Corporation, Rockwell International Corporation, Stackpole Corporation, and Molded Fiberglass Company* (Northern District of Ohio).
54. *United States of America v. Joseph Simon and Sons, et al.* (Western District of Washington).
55. *United States of America v. Acme Scrap Iron and Metal Company, et al. v. Gen Corp, Inc. et al.* (Northern District of Ohio).
56. *United States of America v. Malitovsky Cooperage Company, Inc., et al.* (Western District of Pennsylvania).
57. *United States of America v. Standard T Chemical Co., Inc., The Glidden Company, Crown Cork & Seal Co., Inc., Brightly Galvanized Products, Inc., Collis Co., Demert & Dougherty, Inc., USX Corporation, Pierce & Stevens Chemical Co., Veniculum, Inc., Container Corporation of America, National Precision Circuits & Electronics, Inc., Precision Twist Drill Co., LTV Steel Co., and Wyman Gordon Co.* (Northern District of Illinois).
58. *United States of America v. Mexico Feed and Seed Company, Inc., et al.* (Eastern District of Missouri).
59. *United States of America v. Harold Murtha, et al.* (District of Connecticut).
60. *United States of America v. The City of Seattle and Municipality of Metropolitan Seattle* (Western District of Washington).
61. *United States of America v. American Renovating Company, Argo Paint and Chemical Company, BASF Corporation, Commercial Steel Treating Corporation, DeSoto Corporation, EMCO Chemicals, Inc., Leonard Dorsey and Gertrude Dorsey.* (Eastern District of Michigan).
62. *United States of America v. Aluminum Company of America, Ajax/Acorn Manufacturing, Inc., Chamberlain Manufacturing Corporation, Johnson Matthey, Inc., Merck, Sharpe and Dohme, City of Philadelphia, Pennsylvania, Superior Tube Company, Synthane Taylor Corporation, Union Carbide Corporation, Waste Conversion, Inc., William M. Wilson's Sons, Inc., W.R. Grace, Grange Environmental Corporation, Paul Lanigan, Catherine Moyer, Howard Moyer, Providence Builders, Inc., and Gerald Thorpe* (Eastern District of Pennsylvania).
63. *United States of America v. Vertac Chemical Corporation, Hercules, Inc., The Dow Chemical Corporation, and Uniroyal Chemical Limited, f/k/a Uniroyal Limited; Arkansas Department of Pollution Control and Ecology v. Vertac Chemical Corporation, Hercules, Inc., The Dow Chemical Corporation, and Uniroyal Chemical Limited f/k/a Uniroyal Limited* (consolidated matters) (Eastern District of Arkansas).
64. *United States of America v. Pacific Hide and Fur Depot, Inc., Pacific Steel Hide Recycling Company, William N. McCarty, Michael McCarty, Terry McCarty, Sherry McCarty Christianson, Richard McCarty, Dana McCarty, McCarty's Inc. and Idaho Power Company.*

- (District of Idaho).
65. *United States of America v. ANR Pipeline, Allen-Bradley Co., Cam-Or, Inc., CSX Transportation, Central Oil Service, Century Oil, Inc., City Waste Oil and Road Service, Cold Metal Products, Ford Motor Company, General Motors Corporation, Imperial Oil Company, Northern Indiana Public Service Company, C. Stoddard & Sons, Inc., Tenneco Gas Transportation Company, Texoma, Inc., and USX Corporation.* (Northern District of Indiana).
 66. *United States of America v. Maryland Sand, Gravel and Stone Company, Paul Mraz, Schering-Plough Corporation, A and S Manufacturing Company, and Westinghouse Electric Corporation.* (District of Maryland).
 67. *State of Wisconsin v. Robert P. Fettig, James R. Raymond, and Tankcraft Corporation* (Walworth County Circuit Court).
 68. *In the Matter of Ordnance Works Disposal Areas Site, Morgantown, WV, Rockwell International Corporation, Olin Corporation, General Electric Company, and Morgantown Industrial Park Associates,* Docket No. III-90-27-DC.
 69. *United States of America v. Alcan Aluminum Corporation, et al.* (Middle District of Pennsylvania).
 70. *Atlantic Richfield Company v. Solvents Recovery Corporation, et al.* (Northern District of Oklahoma).
 71. *Atlantic Richfield Company v. American Airlines, et al.* (Northern District of Oklahoma).
 72. *United States of America and State of California v. Montrose Chemical Corporation of California, et al.* (Central District of California).
 73. *United States of America v. Marvin Pesses, et al.* (Western District of Pennsylvania).
 74. *United States of America v. The Selmer Company, L.P., North American Philips Corporation, Macmillan, Inc.* (Northern District of Indiana).
 75. *Dennis Ramey et al. v. Pam Am World Services, Inc., United Painting & Sandblasting, Inc., Hunter Services, Inc., Carboline Company, Martin Marietta Corporation, Wade A. Ivey and Harold Senter* (Circuit Court for Brevard, FL).
 76. *United States of America v. Consolidated Rail Corporation.* (Northern District of Indiana).
 77. *United States of America v. Summit Equipment & Supplies, Inc., Benjamin J. Hirsch, Michael Hirsch, Navistar International Transportation Corporation, Owens-Illinois, Inc. and City of Cleveland, Ohio.* (Northern District of Ohio).
 78. *United States of America v. Consolidation Coal Company, Dravo Corporation, U.S.X. Corporation and Westinghouse Electric Corporation.* (Western District of Pennsylvania).
 79. *United States of America v. U.T. Alexander, et al., and Monsanto Company v. Motco, Inc., et al.* (Southern District of Texas).
 80. *United States of America v. City of Newport, et al.* (Eastern District of Kentucky).
 81. *United States of America v. Niagara Transformer Corporation, Bell Aerospace Textron, General Electric Company, General Motors Corporation, New York State Electric and Gas Corporation, Niagara Mohawk Power Corporation and Union Carbide Corporation.* (Western District of New York).
 82. *United States of America v. Tennessee Gas Pipeline Company.* (Western District of Louisiana).
 83. *United States of America v. Louis Serafini, et al.* (Middle District of Pennsylvania).
 84. *United States of America v. Fairchild Industries, Inc. and Cumberland Cement and Supply Co.; United States of America v. Kelly Springfield Tire Company, Precise Metals and Plastics, Inc.*

- and Joseph Diggs* (consolidated cases). (District of Maryland).
85. *United States of America v. Allen-Bradley Company, Imperial Oil Limited, ANR Pipeline Company, Tenneco Gas Transportation Company, USX Corporation and General Motors Corporation.* (Northern District of Indiana).
 86. *United States of America v. Berks Associates, Inc. et al.* (Eastern District of Pennsylvania).
 87. *United States of America v. American Seating Company, Nekoosa Papers, Inc., Primerica Corporation and Spalding & Evenflow Companies, Inc.* (Western District of Wisconsin).
 88. *People of the State of Illinois v. Patrick Stewart and C.L. Industries, Inc.,* Vermilion County No. 90-CF-379.
 89. *United States of America v. Kenneth Peirce et al.* (Northern District of New York).
 90. *Richmond Fredericksburg and Potomac Railroad Company v. Davis Industries, Inc., Benjamin Ettleman and Fred Bonnett* (Eastern District of Virginia).
 91. *United States of America v. Jonathan W. Bankert, Jr., Northside Sanitary Landfill, Inc., Patricia A. Bankert, Cynthia A. Russell, White Metal Rolling & Stamping Corporation and Industrial Plating, Inc.* (Southern District of Indiana).
 92. *United States of America v. USX Corporation and Atlantic Disposal Service, Inc.* (District of New Jersey).
 93. *United States of America v. Maurice M. Taylor, Sr., Madeline R. Taylor, Maurice M. Taylor, Jr., Brent L. Taylor, Frederick B. Taylor, Arthur C. Reibel, 418922 Ontario, Ltd., and Ellsworth TDS, Inc.* (Western District of Michigan).
 94. *United States of America v. The Sherwin-Williams Company, The Glidden Company/SCM Corporation, Frederick H. Levey Co., Inc., Division of Cities Service Company, Inc., Inmont Corporation, Bagcraft Corporation of America, Inc., Speciality Coatings Company, Inc., GraphicColor Corporation, Sun Chemical Corporation, Container Corporation of America, A & B Container Corporation, Steel Container Corporation/Calumet Container and James D. Cross* (Central District of Illinois).
 95. *Kenneth R. Gragson v. The United States of America, ICI Americas, Inc., Pioneer Chlor-Alkali, Inc., Rhone-Poulenc, Inc., Rhone-Poulenc Basic Chemicals Company, Stauffer Chemical Company, Inc., Stauffer Chemical Company of Nevada, Stauffer Chlor-Alkali Company, Stauffer Management Company and the State of Nevada* (District of Nevada).
 96. *United States of America v. Otto Skipper, et al.* (District of North Carolina).
 97. *In Re: National Gypsum Company, Aancor Holdings, Inc.* (Northern District of Texas, Bankruptcy Court).
 98. *United States of America v. Anchor Motor Freight, Inc.* (Northern District of Ohio).
 99. *United States of America v. Atlas Minerals and Chemicals, Inc., Caloric Corporation, East Penn Manufacturing Company, Inc., Exide Corporation, GAF Corporation, Garden State Tanning, Inc., General Electric Company, The Glidden Company, Mack Trucks, Inc. and The Stroh Brewery Company* (Eastern District of Pennsylvania).
 100. *United States of America v. Chrysler Corporation and Knotts, Inc.* (District of Delaware)
 101. *Dale Britt, Connie Helm, F.D. Townsend and Henryetta Townsend v. City of Oklahoma City* (District Court of Oklahoma County)
 102. *Chris M. Beck, et al., v. Amoco Oil Company* (Northern District of Indiana).
 103. *DeSoto, Inc., Rheem Manufacturing Company, Sanyo Manufacturing Corporation and Whirlpool Corporation v. Baldor Electric Company, Inc., Ballman Cummings Furniture*

Company, d/b/a Ayers Furniture, Fort Smith Barrel & Drum Company, Inc., Fort Smith Chair Company, d/b/a Ayers Furniture Industries, Champion Parts, Inc., FSCC Acquisition Company, Gould, Inc., GNB Incorporated, Hickory Springs Manufacturing Company, Inc., Lineal Group, Inc., d/b/a Samsonite Furniture Company and d/b/a Fort Smith Table & Chair, Prescottech, Inc., Riverside Furniture Manufacturing Corporation, Arkansas Best Corporation, SFC Acquisition Corporation, d/b/a Samsonite Furniture Company and d/b/a Fort Smith Table & Chair, Tannetics, Inc., d/b/a Prescottech and Truck Equipment Company, Inc. (Western District of Arkansas).

104. *Premium Plastics, et al. v. LaSalle Bank, et al.*
105. *United States of America v. Caribe General Electric Products, Inc., Motorola Telcarro De Puerto Rico, Inc., Harman Automotive Puerto Rico, Inc., The West Company of Puerto Rico, Inc., and Puerto Rico Industrial Development Company* (District of Puerto Rico).
106. *In Re: Colorado Fuel & Iron of Utah* (District of Utah, Bankruptcy Court).
107. *United States of America v. Ralph L. Lowe, Dixie Oil Processors, Intercoastal Chemical Company, Dow Chemical Company USA, Merichem Company, Monsanto Company, Lowenco, Inc., Mobile Chemical Company, Arco Chemical Company, Petro-Tex Chemical Company, Rohm & Haas Company and Tex Tin Company* (Southern District of Texas).
108. *The City and County of Denver, et al., v. Adolph Coors Company, et al.* (District of Colorado).
109. *United States of America v. William Davis, Eleanor Davis, A. Capuano Brothers, Inc., CIBA-GEIGY Corporation, Clairol, Inc., Pfizer, Inc., The Providence Journal Company, United Sanitation, Inc., and United Technologies Corporation* (District of Rhode Island).
110. *Texas Processing, Inc., Douglas Hoskins and Nora W. Coley, individually, and on behalf of and as next friend of Courtney Coley Hoskins, a minor, v. Oxy Petrochemicals, Inc., f/k/a Cain Chemical, Inc., f/k/a Corpus Christi Petrochemical Co., and The Transport Company of Texas* (District Court, 214th Judicial District, Nueces County, Texas).
111. *United States of America v. Mary Ruth Smith, et al.* (District of Kentucky).
112. *Rollins Environmental Services (NJ), Inc. et al. v. The United States of America; United States of America v. Allied-Signal, et al.* (consolidated matters) (District of New Jersey).
113. *Silicon Metaltech, Inc. v. Chrysler Capital Corporation, and The Official Unsecured Creditors' Committee in the Silicon Metaltech, Inc. Bankruptcy v. M.A. Hanna Company and Cyprus Foote Mineral Company*, Adversary No. A90-06218.
114. *United States of America v. Dext Company of Maryland* (District of Maryland).
115. *United States of America v. Velsicol Chemical Corporation and City of Memphis; United States of America v. Velsicol Chemical Corporation, The Procter & Gamble Cellulose Company and City of Memphis, Tennessee* (Western District of Tennessee).
116. *United States of America v. Aluminum Company of America* (Eastern District of Texas).
117. *United States of America v. Federal Pacific Electric Company, Inc.; Commonwealth of Massachusetts v. Federal Pacific Electric Company, Inc.* (District of Massachusetts).
118. *Harbour Island, Inc. v. Hillsborough County, v. The City of Tampa* (Middle District of Florida).
119. *United States of America v. Broderick Investment Company, Tom H. Connolly, as Trustee, First Interstate Bank of Denver, N.A., as Trustee, and Burlington Northern Railroad Company* (District of Colorado).

120. *Barton Solvents, Inc. v. Southwest Petro-Chem, Inc., v. AGCO Corporation of Delaware, Inc. et al.* (District of Kansas).
121. *City of North Miami v. Morris Berger, Personal Representative of the Estate of Frank B. Kaufman, et al.* (Eastern District of Virginia).
122. *United States of America v. Kenneth L. Thomas, Robert McKee, ANR Pipeline Company, Commonwealth Aluminum Corporation, Atlantic Richfield Company, Kentucky Petroleum Recycling, Inc. f/k/a Kentucky Petroleum Waste, Inc. and Russell M. Bliss* (Southern District of Illinois).
123. *United States of America v. American Cyanamid Company, Inc., Chemical Associates, Inc., Dow Corning Corporation, E. I. DuPont De Nemours Company, Ethyl Petroleum Additives, Inc., Elmer Fike, Halliburton Company, Hercules, Inc., Hollingsworth & Vose Company, Lord Corporation, MacDermid Incorporated, McGean-Rohco, Inc., Miles, Inc., Monsanto Company, Morton International, Inc., PB&S Chemical Company, Polaroid Corporation, PPG Industries, Inc., Alvin Sperber, Union Carbide Corporation and Lawrence Westreich* (Southern District of West Virginia).
124. *Four Winds Plaza Partnership v. Texaco, Inc., et al.* (District Court of the Virgin Islands, District of St. Thomas - St. John).
125. *American Telephone & Telegraph Company, et al. v. Aetna Casualty and Surety Company et al.* (Superior Court of New Jersey).
126. *In the Matter of Tennessee Gas Pipeline Company*, Docket Nos. RP91-203 and RP92-132 (Phase II - PCB Issues) (Commonwealth of Pennsylvania, Office of Consumer Advocate and State of Ohio, Office of the Consumer's Counsel).
127. *United States of America v. David Bowen Wallace, Wallace Joint Land Venture, CTU of Delaware, Inc., United Technologies Corporation, Dresser Industries, Inc., Safety-Kleen Corporation, Glitsch, Inc., Rockwell International Corporation, Teccor Electronics, Inc., General Dynamics Corporation, General Electric Company, Texas Nameplate Company, Inc., Campbell Soup Company, Proctor & Gamble Manufacturing Company, E. I. DuPont de Nemours and Company, United States Brass Company and Axelson, Inc.* (Northern District of Texas).
128. *State of Wisconsin v. Michael F. Edwards; State of Wisconsin v. Fabco & Investment, Inc., d/b/a Fabco Industrial Laundry* (consolidated matters) (State of Wisconsin, Circuit Court, Outagamie County).
129. *United States of America v. Joseph M. Blosenski, Jr., et al.; Atlantic Richfield Company v. Joseph M. Blosenski, Jr., et al.* (consolidated matters) (Eastern District of Pennsylvania).
130. *Talley Corporation, et al. v. Insurance Company of North America et al.* (Central District of California).
131. *Maxus Energy Corporation v. United States of America* (Northern District of Texas).
132. *Chemetron Investments, Inc. v. Fidelity & Casualty Company of New York, et al.; Allegheny International Canada, Ltd. v. Fidelity & Casualty Company of New York, et al.* (consolidated matters) (Western District of Pennsylvania).
133. *United States of America v. Gencorp, Inc., et al. v. Detrex Corporation, et al.* (Northern District of Ohio).
134. *Donna Dudzik v. PMC, Inc., d/b/a PMC Specialties Group v. Laicon, Inc.* (Circuit Court of Cook County, State of Illinois).

135. *United States of America v. Darrell L. Freeman, Jr., William Uhl, Sr., Garlock, Inc. and Unisys Corporation; Darrell L. Freeman, Jr. v. Unisys Corporation, Garlock, Inc. and Clevepack Corporation; Garlock, Inc. v. Bausch & Lomb, Inc., Burke Forging and Heat Treating, Clearing-Niagara, Inc., Dover Corporation, Eagle Industries, Inc., Eastman Kodak Company, General Signal Corporation, Gleason Corporation, Lapp Insulator Company (Inc.), Leroy Industries, Inc., Pheumo Abex Corporation, Praxair, Inc., Rhone-Poulenc, Inc., Sybron International Corporation, Therm, Incorporated and Xerox Corporation* (consolidated matters). (Western District of New York).
136. *The Home Insurance Company et al. v. Ford Motor Company et al.*, Case No. 93-448999-CK.
137. *United States of America v. Donald R. Lang, Wallis W. Smith, Arco Chemical Company, Atlantic Richfield Company, Exxon Corporation and Lubrizol Corporation* (Eastern District of Texas).
138. *Frit Industries, Inc. v. Chevron U.S.A. et al.* (Eastern District of Arkansas).
139. *Elf Atochem North America, Inc. v. United States of America, et al.; United States of America v. Witco Corporation* (consolidated matters) (Eastern District of Pennsylvania).
140. *United States of America and State of Louisiana v. Marine Shale Processors, Inc., Recycling Park, Inc. and Southern Wood Piedmont Company* (Eastern District of Louisiana).
141. *Wastex Joint Steering Committee v. Chemsico, Inc., et al.* (District of Kansas).
142. *United States of America v. National Can Company* (Northern District of Indiana).
143. *City of Chicago v. NL Industries, Inc. and Artra Group, Inc. v. Goodwill Industries of Chicago and Cook County, Illinois et al.; NL Industries, Inc. v. Artra Group, Inc.* (consolidated matters). (Circuit Court of Cook County, Illinois).
144. *United States of America v. Monsanto Company, A T & T Technologies, Inc., and Thermo-O-Disc, Inc. v. American Cyanamid Company, EM Industries, Inc., Hoechst Celanese Corporation, Tennessee Eastman Company, Sun Company, Inc., General Electric Company, Deering Milliken Research Corporation, and Sun Company, Inc. v. Allied Signal, Inc., Abbott Laboratories, BASF Corporation, Fisher Scientific Company, Morton International, Inc. CIBA-GEIGY Corporation and E. I. DuPont de Nemours and Company* (District of South Carolina).
145. *United States of America v. Brent Cassidy, Marlene Cassidy, Detrex Corporation, Ford Motor Company, General Motors Corporation, PVS-Nolwood Chemicals, Inc., Tronex Chemical Corporation and Van Waters and Rogers, Inc.* (Eastern District of Michigan).
146. *Charter Township of Oshtemo, City of Kalamazoo, Kalamazoo County, and The Upjohn Company v. American Cyanamid Company, et al.* (Western District of Michigan).
147. *United States of America v. Allstate Container Corporation and Raymond McCune* (District of Utah).
148. *United States of America v. AlliedSignal, Inc., Ameriwood Industries International Corporation, Ampex Recording Media Corporation, Athol Corporation, B. B. Walker Collins & Aikman Corporation, Engraph, Inc., GAF Corporation, Lance, Inc., National Services Industries, Pneumafil Corporation, Rexham, Inc., The Sherwin Williams Company, Stork Screens America, Inc. and W. R. Grace & Company* (District of South Carolina).
149. *United States of America v. TMG Enterprises, Inc., Omnisource Corporation, Kentucky Association of Electric Cooperatives, Inc., Louisville Gas & Electric Company, General Electric Company, K & R Corporation d/b/a Tri-City Scrap Company, and United Electric Company, Inc.* (Western District of Kentucky).

150. *Rumpke of Indiana, Inc. v. Cummins Engine Company, Inc., Essex Group, Inc., Ford Motor Company, General Motors Company, International Business Machines Corporation, Phelps Dodge Corporation, Reynolds Metals Company, BTR Inc. f/k/a Stewart Warner Corporation, Cincinnati Milacron, Inc., and George and Ethel Darlage* (Southern District of Indiana).
151. *Borden Chemical and Plastics Operating Limited Partnerships v. Carol Browner as Administrator of and the United States Environmental Protection Agency; United States of America v. Borden Chemical and Plastics Operating Limited Partnerships and Borden Chemical and Plastics Management, Inc.* (consolidated matters) (Middle District of Louisiana).
152. *Crowley Marine Services, Inc. et al. v. Fednav Ltd. et al.* (Eastern District of Washington).
153. *United States of America v. Industrial Excess Landfill, Inc., B. F. Goodrich Company, Bridgestone/Firestone, Inc., Hyman Budoff, GenCorp, Inc., Goodyear Tire and Rubber Company, Hybud Equipment Corporation, Charles Kittinger, Merle Kittinger, Kittinger Trucking Company, Morgan Adhesives Company, and PPG Industries, Inc.* (Northern District of Ohio).
154. *United States of America v. Velsicol Chemical Corporation, Monsanto Company, Terminix International, Inc., William Bell, and Robert Meeks* (Western District of Tennessee).
155. *United States of America v. Western Publishing Company, Inc., I. S. A. in New Jersey, Inc., F. I. C. A. a/k/a Dutchess Sanitation Services, Inc., Joseph Fiorillo, Sr. and Hudson Valley Environmental Services, Inc.* (Northern District of New York).
156. *United States of America v. Exxon Corporation, Grassy Knoll Associates, Peter Johnson as General Partner of Grassy Knoll Associates, and Workplace Systems, Inc.* (District of New Hampshire and District of Rhode Island).
157. *Charles T. Harris and Nada D. Harris v. John E. Holt, Elvira Holt and Homechek Services, Inc.* (Circuit Court for Arlington County, Virginia).
158. *Northwest Pipe & Casing Company v. United States of America and State of Oregon* (District of Oregon).
159. *United States of America v. The Goodyear Tire and Rubber Company, Inc. and Niagara Falls U.S.A. Campsite, Inc.* (Western District of New York).
160. *United States of America v. Red Arrow Partnership, et al.* (Eastern District of Wisconsin).
161. *United States of America v. Kevan M. Green and Polymer Applications, Inc.* (Western District of New York).
162. *West County Landfill, Inc. et al. v. Raychem, Inc. et al.* (Northern District of California).
163. *United States of America v. Ernest Barkam, Grace Barkman, Ern-Bark, Inc., Bark-Ern, Inc., and E. B. Corporation, Inc. v. Schick Electric Company, Penguin Industries, Inc., Sperry Hewholland Company, Sunoco Products Company, Sherex Chemical Company, Alcoa, Unisys Corporation, Terre Hill Borough, Modena Borough, Sadsbury Township, and Honey Brook Borough* (Eastern District of Pennsylvania).
164. *The Bibb Company et al. v. J. P. Stevens & Company, Inc. and Westpoint Stevens, Inc.* (District of South Carolina).
165. *United States of America v. Cowles Media Company, City of Brooklyn Park, Estate of Arthur Wise, Gopher Oil Company, and Northern States Power Company* (District of Minnesota).
166. *United States of America v. Poly-Carb, Inc., Montana Refining Company, and C. Michael Wilwerding* (District of Nevada).
167. *Kaufman and Broad-South Bay, Inc. v. Unisys Corporation, Armand Kunde, Joan Kunde, Estate*

- of John W. Doudell, Armand Kunde as Trustee of the John Doudell Trust created December 30, 1971, Doudell Trucking Company, Diamond Tank and Transportation Lines, Inc., and Does 1 through 100 (Northern District of California).*
168. *Commonwealth of Massachusetts v. SAK Recycling Corporation, Fiore Construction Company, Inc., Walter Fiore, Ralph Salvucci, N & S Corporation, and Peter Salvucci (Commonwealth of Massachusetts).*
 169. *United States of America v. Exeter Properties, Inc., Bridgestone/Firestone, Inc., Perry Realty Investments, and Perry Machinery Corporation (Eastern District of Virginia).*
 170. *Achushnet Company, Amtel, Inc., AVX Corporation, Berkshire Hathaway, Inc., Bridgestone/Firestone, Inc., Chamberlain Manufacturing Corporation, Commonwealth Gas Company, Emhart Industries, Inc., The Goodyear Tire & Rubber Company, Paramount Communications, Inc., Teledyne Rodney Metals, A Division of Teledyne Industries, Inc., and United Dominion Industries, Inc. v. Amoco Oil Company, Inc., Atlantic Richfield Company, Chevron USA, Inc., The Coastal Corporation, Exxon Corporation, Merit Oil Corporation, Mutual Oil Company, Inc., Standard Oil Company, Inc., Sun Company, Inc., and Texaco, Inc. (Commonwealth of Massachusetts).*
 171. *United States of America v. Dixie-Narco, Inc., Noxell Corporation, and George P. Garratt (District of Maryland).*
 172. *United States of America v. Compaction Systems Corporation, Compaction Systems Corporation of Connecticut, Connecticut Resource Recovery Authority, Inc., Occidental Petroleum Corporation, Rayonier, Inc., Knoll Pharmaceutical Company, Inc., J. Filiberto Sanitation, Inc., and Browning-Ferris Industries of North Jersey, Inc. (District of New Jersey).*
 173. *United States of America v. Spaulding Composites Company, Inc.; Caldwell Trucking PRP Group v. Spaulding Composites Company, Inc. et al. (consolidated matters) (District of New Jersey).*
 174. *United States of America v. Parish Chemical Company (District of Utah, Central Division).*
 175. *Freeport-McMoran Resource Partners Limited Partnership v. Anaconda Wire, B & B Paint, Barrels, Inc., Bradford White, Brunswick, Burwood, Chemical Recovery, Chemetron, Eagle Ottawa, Fessler Bowman, Flint Park & Recreational, Hagen, Hambicki Brothers, Hastings Manufacturing, International Harvester, Keeler Brass, Knape & Vogt, Bofors Noble, Inc (f/k/a Lakeway Chemical), Lear Siegler, Lescoa, Major Oil, Miller Metals, Motor Prod., M.W.A., Nordco, Organic Chemical, Prein & Newhof, R. C. Allen, Ren Plastics, Rospach Label, Rowe International, Royal Casket, Shaw Walker, Stow Davis, Thrall Oil, U. S. Chemical, United Steel, and Upjohn Company (Eastern District of Michigan).*
 176. *United States of America v. Chrysler Corporation, Ford Motor Company, Kewanee Industries, Inc. and Chevron U.S.A. Inc., and Minnesota Mining and Manufacturing Company (Northern District of Ohio)*
 177. *Commonwealth of Pennsylvania, Department of Environmental Protection v. Crown Recycling & Recovery, Inc., Josephine Bausch Cardinale, Nancy Cardinale, Universal Manufacturing Corporation, Magnetek, Inc., Schilberg Integrated Metals Corporation, and Wire Recycling, Inc. (Commonwealth of Pennsylvania).*
 178. *In the Matter of Highway 71/72 Refinery Superfund Site, Bossier City, Bossier Parish, Louisiana (Middle District of Louisiana).*
- United States of America vs Steven Cohen, Lawrence Cohen, Chicago International Chicago, Inc., and*

Chicago International Exporting (Northern District of Illinois).

179. *United States of America v. H. K. Porter Company, Inc. Economy Industrial Properties, Thomas R. Allen, Jr., and Morton J. Greene* (Western District of Pennsylvania).
180. *The Dow Chemical Company et al. v. Acme Wrecking Company et al.*; *The Dow Chemical Company et al. v. Sun Oil Company, d/b/a Sunoco Oil Corporation et al.* (consolidated matters) (Southern Division of Ohio).
181. *United States of America and the State of Texas v. Atlantic Richfield Company, Crown Central Petroleum Corporation, The Goodyear Tire & Rubber Company, Occidental Chemical Corporation, Rohm and Haas Company, Shell Oil Company, El Paso Tennessee Pipeline Company, EPEC Corporation, EPEC Polymers, Inc., Tennessee Gas Pipeline Corporation, Petro-Tex Chemical Corporation, Exxon Corporation, Phillips Petroleum Company, and Vacuum Tanks, Inc.* (Southern District of Texas).
182. *State of California v. United States of America, Department of the Army*; *The City of San Bernardino, Municipal Water Department v. United States of America, Department of the Army* (consolidated matters) (Central District of California).
183. *United States of America v. Johnnie Williams, et al.* (Western District of Tennessee).
184. *United States of America v. Pharmacia Corporation, et al.*; *Pharmacia Corporation and Solutia, Inc. v. United States of America, et al.* (Southern District of Illinois)
185. *Commonwealth of Pennsylvania, Department of Environmental Protection v. Quality Container Corporation et al.* (Eastern District of Pennsylvania).
186. *United States of America v. Advanced Resin Systems, Inc. et al.* (Southern District of Texas).
187. *C. Hager & Sons Hinge Manufacturing Company v. Home Insurance Company, et al.*, (Northern District of Alabama).
188. *United States of America v. Axel Johnson, Inc. and Sprague Electric Corporation* (Eastern District of North Carolina).
189. *United States of America v. William M. Gurley* (Eastern District of Arkansas).
190. *United States of America v. J&G 24, Inc., Jorge Ortiz, and Gloria Ortiz* (District of Puerto Rico).
191. *United States of America v. EPEC Polymers, Inc.; Lyondell Chemical Company et al. v. Albemarle Corporation et al.* (consolidated actions) (Eastern District of Texas).
192. *United States of America v. City Barrel & Drum et al.* (Southern District of Texas).
193. *United States of America v. Alfred James Antonini* (Southern District of Texas).
194. *United States of America v. Mallinckrodt Inc. et al.* (Eastern District of Missouri).
195. *Union Electric Company v. Sauget & Company et al.*; *Pharmacia Corporation et al. v. Clayton Chemical Acquisition Limited Liability Company et al.* (consolidated actions) (Southern District of Illinois).
196. *United States of America v. Alcan Aluminum Corporation* (Northern District of New York).
197. *Solutia Inc. and Pharmacia Corporation v. McWane Inc. et al.* (Northern District of Alabama).